

REMARKS

Applicants respectfully traverse and request reconsideration.

Applicants wish to thank the Examiner for the notice that claims 6, 19 and 32 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 13 stands rejected under 35 U.S.C. §112, 1st paragraph, as allegedly failing to comply with the enablement requirement. Applicants have canceled claim 13 without prejudice.

In order to expedite prosecution, and not for purposes of patentability, Applicants have amended the independent claims. Applicants reserve the right to file a continuation or otherwise pursue the claims as originally filed.

New claim 40 is directed to a device that includes a plurality of unified shaders as shown by way of example, in FIG. 6 and is allowable at least for the relevant reasons given below.

Claims 1, 4-5, 7-14, 17-18, 20-27, 30-31 and 33-39 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,980,209 (Donham et al.). The Donham reference is directed to a method and system for scalable, data flow – based, programmable processing of graphics data that utilizes a pixel processing pipeline that employs serially, two ALUs (70 and 90) and two serially coupled texture processors (60 and 80) wherein each of the texture processors output to a respective ALU (70 and 90) as shown for example, in FIG. 2. As best understood, each ALU does not perform any texture operations. They also show, for example, four memory moves using four different FIFOs to complete the pipeline. In contrast, Applicants claim, for example, as noted in claim 1, a unified shader that utilizes at least one ALU/memory pair which performs both texture operations and color operations. Such an ALU/memory pair is used, for example, to read out and write back to its respective

memory until, for example, the texture operation or color operation is performed. Also, Applicants respectfully note that independent claims 14, 19 and 27 have also been amended to indicate that the ALU/memory pair performs both texture and color operations. Other differences will be recognized by those of ordinary skill in the art. Since Applicants claim a different structure, Applicants respectfully submit that the claims are in condition for allowance.

In addition, claim 8 is also in condition for allowance since it requires that the shading mechanism requires a plurality of ALU/memory pairs that perform the shading operations. As shown, for example, in Applicants' FIG. 2 and as set forth in page 12 and elsewhere, four (or any other suitable number) pairs of identical ALU/memory pairs are employed and each respective memory (e.g., SRAM) is used to store input values and intermediate values needed by the shader program. The space remains allocated for the time it takes to completely process a quad of pixels. As one example, in one four clock cycle, the claimed ALU/memory pairs may perform writing a raster texture address to the memory, write a raster color value to the memory, reading up to three source operands from the memory and executing a shader instruction, writing the result from the shader instruction back to the memory, reading a texture address from the memory and issuing it to a texture unit and writing a return texture value to the memory. The cited reference does not teach the subject matter of claim 8.

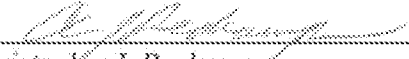
In addition, the dependent claims add additional novel and non-obvious subject matter.

Claims 2, 3, 15, 16, 28 and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Donham in view of Zatz. Applicants respectfully submit that these claims are also in condition for allowance as at least depending upon allowable base claims. Other differences will be recognized by those of ordinary skill in the art.

Applicants respectfully submit that the claims are in condition for allowance and that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

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